REMARKS

Claims 1-53 are pending. Applicants have amended independent claims 1, 52, and 53 to exclude the term "C_1-C_6 alkoxy" from the listing of permissible substituents for the recited variables (*e.g.*, R_1) and to further define the term "DNA minor groove binder." Applicants have also amended dependent claims 13, 22, 24, 46, and 47 to comport with the amended scope of claim 1. Support for the amendment can be found throughout the specification (*e.g.*, *see* page 10, line 25 through page 12, line 3; *see also* Examples 37-52 and 54-59). No new matter has been added.

In the specification, Applicants have discovered an error in the paragraphs beginning at page 2, line 22 and page 10, line 25. In these paragraphs, formulas (II-A) and (II-B) include variable W. However, variable W was already used in describing a DNA minor groove binder (*i.e.*, variable W was also used in: $-CONH(CH_2)_r$-J-W-$(CH_2)_tR^e$.). To minimize any risk of confusion, Applicants have replaced W with W' in formulas (II-A) and (II-B). As it was an inadvertent error to use the same letter in different formulas, Applicants respectfully request entry of the present amendment to the specification.

35 U.S.C. § 112 ¶ 2 and ¶ 1

In the "[r]esponse to arguments" (Office action at page 2), the Examiner refers briefly to Applicants' prior remarks regarding the term "DNA minor groove binder," and comments (Office action at page 2):

> It is not sufficient to define a chemical structure solely by its principal biological property. Applicants are attempting to define a chemical structure solely by its principal biological property.

The Examiner makes very few comments regarding enablement, but seems to maintain that ground for rejection as well. Moreover, that rejection seems to be maintained based on Applicants use of a claim term the Examiner considers purely functional. The Examiner states, "[i]t cannot be seen how such a large group 'defined' by a functional language is enabled" (Office action at page 3).

Applicants maintain that the claims previously presented are both sufficiently clear and enabled. Nevertheless, to expedite prosecution, *the claims have been amended to recite a*

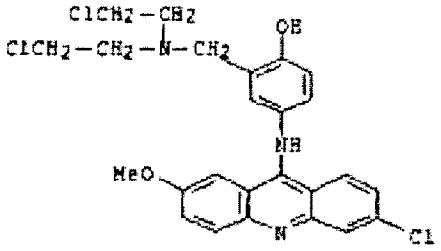
particular structure for the DNA minor groove binder. This substituent must conform to the formula -CONH$(CH_2)_r$-J-W-$(CH_2)_t R^e$, with each of the variables as now recited in the claims. The Examiner's attention is kindly directed to the claim listing above.

In view of the fact that the DNA minor groove binder is now clearly structurally limited (*i.e.*, it cannot be said that Applicants are attempting to define a chemical structure solely by its principal biological property), Applicants respectfully ask the Examiner to reconsider and withdraw the rejections under 35 U.S.C. § 112 ¶ 2 and ¶ 1.

35 U.S.C. § 103(a)

Claims 1-3, 6-11, 13, 16-19, 22-26, 29, 30, 39-40, 46-49, and 51-53 are newly rejected as being obvious over Elslager *et al.* (U.S. Patent No. 2,883,382) ("Elslager"), and further in view of Gourdie *et al.* (*J. Med. Chem.* 33:1177-1186, 1990) ("Gourdie") and *The Chemistry of Antitumour Agents*, Derry E. V. Wilman, Ed., Chapman and Hall, New York ("Wilman").

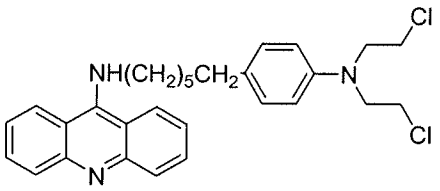
The Examiner reproduces the following compound from Elslager:



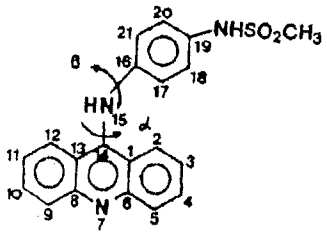
Referring to Elslager's compound, the Examiner states (Office action at page 4):

> The substituents in this compound are the same as those of the invention. Except that applicants have amended the claims that their R's are not hydroxyl group, but can be an alkoxy or an C1-C6 hydroxyalkyl.

The Examiner then refers to Gourdia as teaching acridine compounds "substituted with the aniline mustard group," including the following compound (Office action at page 5):



Wilman is relied on as teaching several acridine core compounds and their use as antitumor agents (Office action at page 5). More specifically, the Examiner states, "Wilman teaches the acridine core to have DNA binding properties and also some binding in the major groove" (Office action at page 6). Wilman discloses:



Based on these prior compounds, the Examiner concludes that "one of skill in the art would expect that acridine substituted by L-N(CH2CH2CL)2 (*sic*)at any position would also have the DNA binding property and have some expectation of success at making new but similar compounds" (Office action at page 6). The Examiner also states that making positional isomers is *prima facie* obvious in the absence of unexpected results (no legal authority is provided for this position) and that (Office action at page 6):

> according to KSR v Teleflex one of skill in the art would have found it obvious and be motivated to make positional isomers with a reasonable expectation of success that it (*sic.*) would retain its pharmaceutical properties.

In view of the present amendment and the remarks that follow, Applicants respectfully request reconsideration and withdrawal of this ground for rejection. As the Examiner recognizes, the present compounds differ from the compounds described in the cited references. Moreover, none of the differences represent a simple repositioning of a substituent. In other words, the compounds now claimed are not merely positional isomers of compounds within the prior art. For example, Elslager's compound includes both a hydroxyl group and a methoxy group, neither of which are substituents in the compounds claimed. Similarly, the Wilman compound

includes -$NHSO_2CH_3$, which is not a substituent recited in the present claims, and Gourdia's compound includes a greatly expanded linker (-NH-$CH_2CH_2CH_2CH_2CH_2CH_2$-). Thus, for the present compounds to have been obvious, there must have been some motivation to particularly modify the prior art compounds to arrive at the compounds now claimed. With respect to Elslager, there must have been motivation to remove the hydroxyl and methoxy groups; with respect to Wilman, there must have been motivation to replace the -$NHSO_2CH_3$ substituent; and with respect to Gourdia, there must have been motivation to collapse the linker.

There is no suggestion in the art that these particular modifications should be made, nor is there any motivation to select one part of one compound and another part of another compound. The fact that some therapeutic agents having an acridine core can intercalate DNA is not enough to render obvious a compound having an acridine core with the particular substituents required by the present claims. As noted above, the claimed compounds are not positional isomers of the prior art compounds, nor would they be obvious over the prior art compounds based on *KSR* (*KSR International Co. v. Teleflex Inc., et al.*, 550 U.S. 398 (2007)). The present case is substantially different from *KSR*, where the obviousness analysis focused on the combination of two mechanical components (in a gas pedal for an automobile). In *KSR*, the Supreme Court rejected a rigid application of the TSM (teaching/suggestion/motivation) test for obviousness in favor a more flexible approach – one that would allow the application of common sense to inventions amounting to no more than a combination of familiar elements to yield a predictable result. Even in view of *KSR*, the present, unique compounds are not obvious over Elslager, Gourdia, or Wilman, whether considered alone or in combination. This ground for rejection should be withdrawn.

CONCLUDING FORMALITIES

A Petition to extend the initial deadline for response is being filed concurrently, with authorization to charge Deposit Account No. 06-1050. No other fees are believed due. If there are any fees, or credits, please apply them to Deposit Account No. 06-1050, referencing Attorney Docket No. 08919-0118001.

Respectfully submitted,

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